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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants: Yutaka SATO et al.
Serial No.: 09/800,056
Filed: March 5, 2001 Appeal No.
For: CONNECTOR, MULTI-CHANNEL AUDIO SYSTEM
ELECTRONIC APPARATUS, AND CABLE FOR CONNECTION
Group A.U.: 2833
Examiner: F. O. Figueroa

I hereby certify that this paper is being deposited with the U.S. Postal Service as first class mail addressed to: Mail Stop Appeal Brief, Commissioner for Patents, P.O. 1450, Alexandria, VA 22313-1450

Jay H. Maioli

JAY H. MAIOLI
Reg. No. 27,213

Date

12.08.04

December 8, 2004
1185 Avenue of the Americas
New York, NY 10036
(212) 278-0400

TRANSMITTAL LETTER FOR APPELLANT'S BRIEF

Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted in triplicate is Appellant's Appeal Brief in the above-identified application.

The fee of \$340.00 set by 37 C.F.R. § 1.17(c) for filing the Brief is submitted herewith.

Please charge any additional fees incurred in connection with the filing of the Appellant's Brief or credit any overpayment to Deposit Account No. 03-3125.

Two copies of this Transmittal Letter are enclosed herewith.

Respectfully submitted,
COOPER & DUNHAM LLP

A handwritten signature in cursive script, reading "Jay H. Maioli".

Jay H. Maioli
Reg. No. 27,213

Encl.
JHM/AVF



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APPELLANT'S BRIEF

Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Appeal to the Board of Patent Appeals and Interferences from the decision dated August 19, 2004 of the Examiner finally rejecting claims 5, 12, and 16 in the above-identified application.

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1. REAL PARTY IN INTEREST

This application is assigned to Sony Corporation, 7-35 Kitashinagawa 6-chome, Shinagawa-ku, Tokyo, Japan by the Assignment recorded June 18, 2001 at Reel 011905, Frame 0532.

2. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences presently known to the undersigned.

3. STATUS OF ALL CLAIMS

This application was originally filed with 32 claims. Claims 1-32 were amended by the Preliminary Amendment filed January 8, 2002. Claims 5, 7, 9-11, 14, 16, 21, 24, and 30 were amended and claims 1-4, 6, 13, 23, 25-29, and 31-32 were cancelled by the Amendment filed June 21, 2002. Claims 5, 12, 16, and 22 were amended and claims 11, 15, 21, and 30 were cancelled by the Amendment filed November 27, 2002. Claims 5, 12, 16, and 22 were amended and claims 7-10, 14, 17-20, and 24 were cancelled by the Amendment filed May 22, 2003. Claim 5 was amended by the Amendment filed November 24, 2003. Claims 5 and 16 were amended and claim 22 was cancelled by the Amendment filed June 23, 2004. Claims 5, 12, and 16, the only claims remaining in this application, stand finally rejected and are the basis of the present appeal.

4. STATUS OF AMENDMENTS FILED SUBSEQUENT TO FINAL REJECTION

No amendments have been filed subsequent to the Final

Office Action mailed on August 19, 2004. Finally rejected claims 5, 12, and 16 are the only pending claims in the application and are set forth in the appendix attached hereto.

5. SUMMARY OF INVENTION

Generally speaking, this invention is intended to provide a simple and efficient system for connecting multiple speakers to an audio system by employing color-coordinated audio signal terminals and speaker connecting cables. Additionally, placement of terminals on the audio system is coordinated with locations of the speakers, to further simplify the connection of the components of the system.

More specifically, as recited in independent claim 5, the present invention relates to a multi-channel audio system comprising:

(i) an electronic apparatus provided on a back panel of the audio system (Fig. 1, element 11) with at least four audio signal output terminals (Fig. 1, elements 12FR, 12FL, 12RR, 12RL, 12C, 12W) for a plurality of channels;

(ii) a plurality of speakers (Fig. 1, elements 3FR, 3FL, 3RR, 3RL, 3C, 3W) for generating acoustic output for each of the plurality of channels in a form of audio signals output from the audio signal output terminals; and

(iii) a plurality of connecting cable members (Fig. 1, elements 21FR, 21FL, 21RR, 21RL, 21C, 21W), each of the plurality of connecting cable members incorporating a pair of conductor members (page 23, lines 13-31) bearing a pair of

polarities and sheathed by one of a plurality of insulating sheathing members (id.) for connecting the electronic apparatus to the plurality of speakers, wherein

(iv) each of the audio signal output terminals is arranged corresponding to positions of the plurality of speakers (Fig. 2; page 18, lines 19-30), the plurality of speakers being arranged corresponding to the plurality of channels, wherein

(v) each of the audio signal output terminals is distinguished by one of a plurality of different respective colors for enabling each of the plurality of channels to be discernible (page 20, lines 7-21), wherein

(vi) a colored mark that shows discernment of the respective output terminal (Fig. 2, elements 13FR, 13FL, 13RR, 13RL, 13C, 13W) is displayed surrounding the respective output terminal on the back panel of the electronic apparatus whereat the audio signal output terminals are located; and

(vii) each of the plurality of connecting cable members is distinguished by one of the plurality of colors (Fig. 4; page 23, lines 13-31) corresponding to a color distribution of the colored marks surrounding each of the audio signal output terminals, and wherein

(viii) the distinction of each of the plurality of connecting cable members is implemented by a plurality of thermally contractile tubes each bearing a different color secured to each of the plurality of connecting cable members (Fig. 4; page 23, lines 13-31), and wherein

(ix) one end of the connecting cable member has a plug connector structure fitted with the pair of conductor members in the form of a pair of coupling holes respectively connected to two conductor portions (Fig. 1, element 23), wherein each plug connector structure has a different respective color corresponding to the color distribution of the plurality of colored marks surrounding the audio signal output terminals (Fig. 1, element 23);

(x) the audio signal output terminals conform to a socket connector structure coupled with the plug connector member formed on one end of the connecting cable member (Fig. 3, element 15);

(xi) each socket connector mounted on the back panel of the electronic apparatus has a pair of connecting pins (Fig. 3, element 17) bearing a pair of polarities and position-controlling means (Fig. 3, element 18) for matching the polarities when an other of the plug connectors is coupled with the socket connector;

(xii) wherein the pair of coupling holes are to be coupled with the two connecting pins and the plug connector includes a position-controlling means coupling portion (Fig. 5, element 26) to be coupled with the position-controlling means of the socket connector for matching the polarities.

5.1 BRIEF DESCRIPTION OF THE REFERENCES

U.S. Patent No. 5,850,457 to Gefvert relates to a unified loudspeaker system and method for use with a home theater

stereo surround sound receiver. A plurality of binaural loudspeakers are housed in a single loudspeaker enclosure having a segmented face portion. Left and right loudspeakers are canted away from a center loudspeaker to provide more complete audio coverage of a defined listening area with audio channel separation. Six equalized soundfields generated via five surround sound channels from the loudspeaker enclosure configuration provide arrival times of the soundfields according to that of a live performance. Conventional two-channel stereo input sources may be combined by the system to provide desired soundfields.

U.S. Patent No. 6,118,876 to Ruzicka relates to an apparatus for reproducing sound based on a stereophonic signal having dialog and effects and associated with an accompanying video image. The apparatus includes a front speaker located in proximity to the video image for providing acoustic output based upon a summation signal of the component left and right (L+R) channels of the audio signal. A rear speaker located to the rear of the viewing area provides acoustic output based upon a difference signal, (L-R) or (R-L), between the left and right channels. The left and right side speakers are located to the respective left and right sides of the viewing area. The left side speaker provides two acoustic outputs in accordance with a band-limited left channel signal and a band-limited difference signal. The right side speaker provides two acoustic outputs in accordance with a band-limited right channel signal and a band-limited difference signal. Band

limiting substantially filters out frequency components below a predetermined threshold. A bass speaker may also be provided to output the low frequency components of a (L+R) summation signal. The (L+R) summation signal input to the front speaker assists in localizing dialog to the video image.

U.S. Patent No. 5,470,253 to Siems et al. relates to a wiring system having a number of electrical systems including a first electrical device of an electrical system, a second electrical device of the electrical system, and an electrical connector connected between the first and the second electrical devices to define an electrical circuit. The electrical connector includes alpha-numeric indicia identifying the electrical circuit. The alpha-numeric indicia include a first alpha-numeric indicium corresponding to the electrical system, a second alpha-numeric indicium corresponding to the first electrical device and a third alpha-numeric indicium corresponding to the second electrical device.

U.S. Patent No. 3,824,524 to Glover relates to a high voltage connector for installation in a panel cutout, wire connection to the connector being made by crimping individual wires to individual contact members and locking each contact member into the connector housing by means of locking tines on the contact member and shoulders in the housing. The housing includes a pair of ears for locking the housing into the panel and a flange on each housing portion to hold the housing portions together when mated.

U.S. Patent No. 5,984,717 to Lee relates to an electrical cable including an insulated electrical conductor having first and second ends. At least one coupler is attached to the insulated electrical conductor between the first and second ends. The coupler includes a body having first and second surfaces. The first surface has a groove defined therein for coupling the cable to a complimentary shaped raised rib, and the second surface has a raised rib located thereon for coupling the cable to a surface defining a complimentary shaped groove.

6. ISSUES

Whether claim 5 is patentable under 35 U.S.C. § 103(a) over Gefvert (U.S. Patent No. 5,850,457) in view of Ruzicka (U.S. Patent No. 6,118,876), Siems et al. (U.S. Patent No. 5,470,253), and Glover (U.S. Patent No. 3,824,524).

Whether claim 12 is patentable under 35 U.S.C. § 103(a) over Gefvert (U.S. Patent No. 5,850,457) in view of Ruzicka (U.S. Patent No. 6,118,876), and Siems et al. (U.S. Patent No. 5,470,253), and further in view of Glover (U.S. Patent No. 3,824,524) and Lee (U.S. Patent No. 5,984,717).

Whether claim 16 is patentable under 35 U.S.C. § 103(a) over Ruzicka (U.S. Patent No. 6,118,876), in view of Siems et al. (U.S. Patent No. 5,470,253) and Glover (U.S. Patent No. 3,824,524).

7. GROUPING OF CLAIMS

Claims 5 and 12 stand or fall together.

Claim 16 is of a different scope and has different grounds of rejection than claims 5 and 12. Therefore it is respectfully submitted that claim 16 stands or falls independently of claims 5 and 12.

8. ARGUMENT

8.1 CLAIM 5 IS PATENTABLE UNDER 35 U.S.C. § 103(a) OVER GEFVERT (U.S. PATENT NO. 5,850,457) IN VIEW OF RUZICKA (U.S. PATENT NO. 6,118,876), SIEMS ET AL. (U.S. PATENT NO. 5,470,253), AND GLOVER (U.S. PATENT NO. 3,824,524).

It is respectfully submitted that none of the cited references disclose or suggest distinguishing each of the output terminals by use of a colored mark that surrounds each respective output terminal.

In the multi-channel audio system of the present invention each of the audio signal output terminals is distinguished by one of a plurality of different respective colors for enabling each of the plurality of channels to be discernible (see specification of the present application, page 20, lines 7-21).

The distinguishing may be effected by use of a colored mark that shows the respective output terminal, the mark being displayed surrounding the respective output terminal on the

back panel of the electronic apparatus upon which the audio signal output terminals are located (see Fig. 2, elements 13FR, 13FL, 13RR, 13RL, 13C, 13W).

Correlation of the color displayed surrounding each output terminal and of the respective connecting cable member allows for improved usability and simplicity in connecting the components of the audio system (see specification of the present application, page 15, lines 1-12).

Ruzicka discloses "color coding the connections at the speaker and at the audio signal source" (see Ruzicka, column 7, lines 28-33).

It is respectfully submitted, however, that Ruzicka does not disclose or suggest use of a colored mark that shows the respective output terminal, the mark being displayed surrounding the respective output terminal on the back panel of the electronic apparatus upon which the audio signal output terminals are located, as recited in independent claim 5.

Additionally, it is respectfully submitted that Ruzicka teaches away from the present invention, stating that the abovementioned color-coding attempts have failed in their stated goal (see id., column 7, lines 33-37).

It is therefore submitted that one with ordinary skill in the art would not be led to the system of the present invention by the disclosure of Ruzicka.

Furthermore, it is respectfully submitted that none of the cited references disclose or suggest arrangement of each of the audio signal output terminals in correspondence with

positions of the plurality of speakers, the plurality of speakers being arranged corresponding to the plurality of channels.

In the present invention, the sockets are located on the audio signal output terminal accommodating portion in correspondence with the positions of each of the plurality of speakers (see specification of the present application, page 18, lines 19-30; Figs. 1-2). This arrangement allows for simplified connection and layout of the components of the multi-channel audio system.

Gefvert discloses the connection of speakers to an A/V receiver, with terminals on the A/V receiver arranged in a horizontal direction (see Gefvert, Figs. 8A-8B).

It is respectfully submitted, however, that the placement of the A/V terminals in Figs. 8A-8B of Gefvert does not correspond to positions of the speakers as arranged for use.

For example, Gefvert discloses configurations of multi-dimensional sound reproduction systems in Figs. 3A-3C. As illustrated in Figs. 3A and 3B of Gefvert, plural speakers in a multi-dimensional sound system are arranged so as to surround a listener. This placement is not indicated or suggested by the linear arrangement of A/V terminals as illustrated in Figs. 8A-8B.

Additionally, there is no suggestion that the illustrated configuration of A/V terminals in Figs. 8A-8B of Gefvert is intended to teach or indicate a correspondence to speaker location (see Gefvert, column 6, lines 7-24).

It is respectfully submitted that none of the cited references, alone or in combination, disclose or suggest a multi-channel audio system comprising an electronic apparatus provided on a back panel thereof with at least four audio signal output terminals for a plurality of channels, a plurality of speakers for generating acoustic output for each of the plurality of channels in a form of audio signals output from the audio signal output terminals, and a plurality of connecting cable members, wherein each of the audio signal output terminals is arranged corresponding to positions of the plurality of speakers, the plurality of speakers being arranged corresponding to the plurality of channels, and each of the audio signal output terminals is distinguished by one of a plurality of different respective colors for enabling each of the plurality of channels to be discernible, whereby a colored mark that shows discernment of the respective output terminal is displayed surrounding the respective output terminal on the back panel of the electronic apparatus upon which the audio signal output terminals are located, and each of the plurality of connecting cable members is distinguished by one of the plurality of colors corresponding to a color distribution of the colored marks surrounding each of the audio signal output terminals, as recited in independent claim 5.

Furthermore, it is respectfully submitted that there is no suggestion or motivation in the cited references to combine the elements as suggested by the Examiner. The mere fact that

the prior art may be modified in a manner suggested by the Examiner does not make the modification obvious unless the prior art itself suggested the desirability of the modification. See In re Fritch, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992).

8.2 CLAIM 12 IS PATENTABLE UNDER 35 U.S.C. § 103(a) OVER GEFVERT (U.S. PATENT NO. 5,850,457), RUZICKA (U.S. PATENT NO. 6,118,876), AND SIEMS ET AL. (U.S. PATENT NO. 5,470,253), AND FURTHER IN VIEW OF GLOVER (U.S. PATENT NO. 3,824,524) AND LEE (U.S. PATENT NO. 5,984,717).

For at least the reasons set forth above, independent claim 5 is believed to be patentable over Gefvert, Ruzicka, and Siems et al. in view of Glover, and for at least those very same reasons dependent claim 12 is also patentably distinct over the cited references.

It is respectfully submitted that Lee does not disclose or suggest, either alone or in combination with any of the above-cited references, a multi-channel audio system comprising an electronic apparatus provided on a back panel thereof with at least four audio signal output terminals for a plurality of channels, a plurality of speakers for generating acoustic output for each of the plurality of channels in a form of audio signals output from the audio signal output terminals, and a plurality of connecting cable members,

wherein each of the audio signal output terminals is arranged corresponding to positions of the plurality of speakers, the plurality of speakers being arranged corresponding to the plurality of channels, and each of the audio signal output terminals is distinguished by one of a plurality of different respective colors for enabling each of the plurality of channels to be discernible, whereby a colored mark that shows discernment of the respective output terminal is displayed surrounding the respective output terminal on the back panel of the electronic apparatus upon which the audio signal output terminals are located, and each of the plurality of connecting cable members is distinguished by one of the plurality of colors corresponding to a color distribution of the colored marks surrounding each of the audio signal output terminals, as recited in independent claim 5.

Accordingly it is respectfully submitted that claim 12, depending from independent claim 5, is patentable over Gefvert, Ruzicka, and Siems et al. in view of Glover and Lee.

8.3 CLAIM 16 IS PATENTABLE UNDER 35 U.S.C. § 103(a) OVER RUZICKA (U.S. PATENT NO. 6,118,876), IN VIEW OF SIEMS ET AL. (U.S. PATENT NO. 5,470,253), AND GLOVER (U.S. PATENT NO. 3,824,524).

For at least the reasons set forth in argument 8.1 above, it is submitted that neither Ruzicka, Siems et al., nor

Glover, alone or in combination, disclose or suggest use of a colored mark that showing the respective output terminal, the mark being displayed surrounding the respective output terminal on the back panel of the electronic apparatus upon which the audio signal output terminals are located.

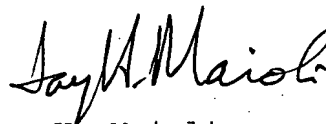
Accordingly, it is respectfully submitted that none of the cited references, alone or in combination, disclose or suggest a multi-channel audio system comprising an electronic apparatus having a plurality of audio signal output terminals mounted on a rear panel thereof, a plurality of speakers for generating acoustic output for each of said plurality of channels, wherein a plurality of colored labels are attached respectively to rear surfaces of the plurality of speakers, each colored label has a different respective color, a plurality of connecting cable members each having a pair of conductor members, each of the plurality of connecting cable members being individually sheathed with an insulating sheathing member and used for connecting the electronic apparatus and the plurality of speakers, wherein the audio signal output terminals corresponding to the plurality of channels are individually distinguished by a plurality of different colored sheets affixed respectively surrounding the audio signal output terminals to visually discern individual channels, a color distribution of the colored sheets corresponds to a color distribution of the colored labels, and the plurality of connecting cable members is provided with specific different colors corresponding to a color

distribution of the colors of the plurality of colored sheets respectively surrounding the plurality of audio signal output terminals for visual discernment of individual channels and corresponding to a color distribution of the plurality of colored labels affixed to the plurality of speakers, wherein the distinguishing of each of the plurality of connecting cable members is performed using a plurality of thermally contractile tubes each bearing a different color and secured to each of the plurality of connecting cable members, and each plug connector structure has a different respective color corresponding to the color distribution of the plurality of colored labels and the plurality of colored sheets, as recited in independent claim 16.

Accordingly, it is respectfully submitted that claims 5, 12, and 16 are patentably distinct over the cited references.

A reversal of the final rejection of claims 5, 12, and 16 by this Honorable Board is respectfully requested.

Respectfully submitted,
COOPER & DUNHAM, LLP



Jay H. Maioli
Reg. No. 27,213

JHM/AVF

APPENDIX

5. A multi-channel audio system comprising:

an electronic apparatus provided on a back panel thereof with at least four audio signal output terminals for a plurality of channels;

a plurality of speakers for generating acoustic output for each of said plurality of channels in a form of audio signals output from said audio signal output terminals; and

a plurality of connecting cable members, each of said plurality of connecting cable members incorporating a pair of conductor members bearing a pair of polarities and sheathed by one of a plurality of insulating sheathing members for connecting said electronic apparatus to said plurality of speakers, wherein

each of said audio signal output terminals is arranged corresponding to positions of said plurality of speakers, said plurality of speakers being arranged corresponding to said plurality of channels, wherein

each of said audio signal output terminals is distinguished by one of a plurality of different respective colors for enabling each of said plurality of channels to be discernible, wherein

a colored mark that shows discernment of the respective output terminal is displayed surrounding the respective output terminal on the back panel of the electronic apparatus whereat the audio signal output terminals are located; and

each of said plurality of connecting cable members is distinguished by one of said plurality of colors corresponding to a color distribution of said colored marks surrounding each of said audio signal output terminals, and wherein

said distinction of each of said plurality of connecting cable members is implemented by a plurality of thermally contractile tubes each bearing a different color secured to each of said plurality of connecting cable members, and wherein

one end of said connecting cable member has a plug connector structure fitted with said pair of conductor members in the form of a pair of coupling holes respectively connected to two conductor portions, wherein each said plug connector structure has a different respective color corresponding to the color distribution of said plurality of colored marks surrounding said audio signal output terminals;

said audio signal output terminals conform to a socket connector structure coupled with said plug connector member formed on one end of said connecting cable member;

each said socket connector mounted on the back panel of the electronic apparatus has a pair of connecting pins bearing a pair of polarities and position-controlling means for matching said polarities when another of said plug connectors is coupled with said socket connector;

wherein said pair of coupling holes are to be coupled with said two connecting pins and said plug connector includes a position-controlling means coupling portion to be coupled

with said position-controlling means of said socket connector for matching said polarities.

12. The multi-channel audio system according to claim 5, wherein one of said plug connector members is secured to each end of each of said plurality of connecting cable members and one of said socket connectors is secured to each of said plurality of speaker terminals, wherein said plug connector members on each connecting cable member are the same color.

16. A multi-channel audio system comprising:

an electronic apparatus having a plurality of audio signal output terminals compatible with at least four of a plurality of channels and being mounted on a rear panel thereof;

a plurality of speakers for generating acoustic output for each of said plurality of channels in the form of an audio signal output from each of said plurality of audio signal output terminals, wherein a plurality of colored labels are attached respectively to rear surfaces of said plurality of speakers, and wherein each colored label has a different respective color; and

a plurality of connecting cable members each having a pair of conductor members bearing a pair of polarities, and each of said plurality of connecting cable members are individually sheathed with an insulating sheathing member and are used for connecting said electronic apparatus and said

plurality of speakers, wherein

said audio signal output terminals corresponding to said plurality of channels provided for said electronic apparatus are individually distinguished by a plurality of different colored sheets affixed respectively surrounding said audio signal output terminals to visually discern individual channels, wherein a color distribution of said colored sheets corresponds to a color distribution of said colored labels; and

said plurality of connecting cable members is provided with specific different colors corresponding to a color distribution of said colors of said plurality of colored sheets respectively surrounding said plurality of audio signal output terminals for visual discernment of individual channels and corresponding to a color distribution of said plurality of colored labels affixed to said plurality of speakers, wherein

said distinguishing of each of said plurality of connecting cable members is performed using a plurality of thermally contractile tubes each bearing a different color and secured to each of said plurality of connecting cable members, wherein

one end of each of said plurality of connecting cable members has a plug connector structure fitted with a pair of coupling holes bearing a pair of polarities each connected to two conductor portions, wherein each said plug connector structure has a different respective color corresponding to the color distribution of said plurality of colored labels and

said plurality of colored sheets;

each of said plurality of audio signal output terminals conforms to a socket connector structure mounted on the rear panel of the electronic apparatus and has a pair of coupling pins for coupling with the coupling holes said plug connector member;

said plug connector member has position-controlling means for matching said polarities when coupled with one of said socket connector members; and

each of said socket connector members has a position-controlling-means coupling portion coupled with said position-controlling means of said plug connector member for matching said polarities.